



***Metro Nashville***  
***DISTRICT ENERGY SYSTEM***

***Advisory Board Quarterly Meeting***  
***First Quarter FY09***

***Presented to***  
***District Energy Advisory Board***

***November 20, 2008***



**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

## *Agenda*

1. Call to Order
2. Election of Chair & Vice Chair
3. Review & Approval of Previous Meeting Minutes
4. Summary of Performance
5. Natural Gas Purchasing Up-Date
6. Financial Reports – 1<sup>st</sup> Qtr FY09
7. Capital Projects Review
8. DES Capacity – New Convention Center
9. Other Board Member Items
10. Adjourn





**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

- 1. Call to Order*
- 2. Election of Chair & Vice Chair*
- 3. Review and Approval of Previous Meeting Minutes*



## *4. Summary of Performance*

Contractor (CNDE) is in compliance with their contractual obligations for FY09.

-  Excellent Performance – No Improvement Necessary
-  Satisfactory Performance – Some Improvement Could Be Made
-  Poor Performance – Much Improvement Necessary



**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

*Summary Table 4: Customer Cost Comparison for the Previous 12 Months*

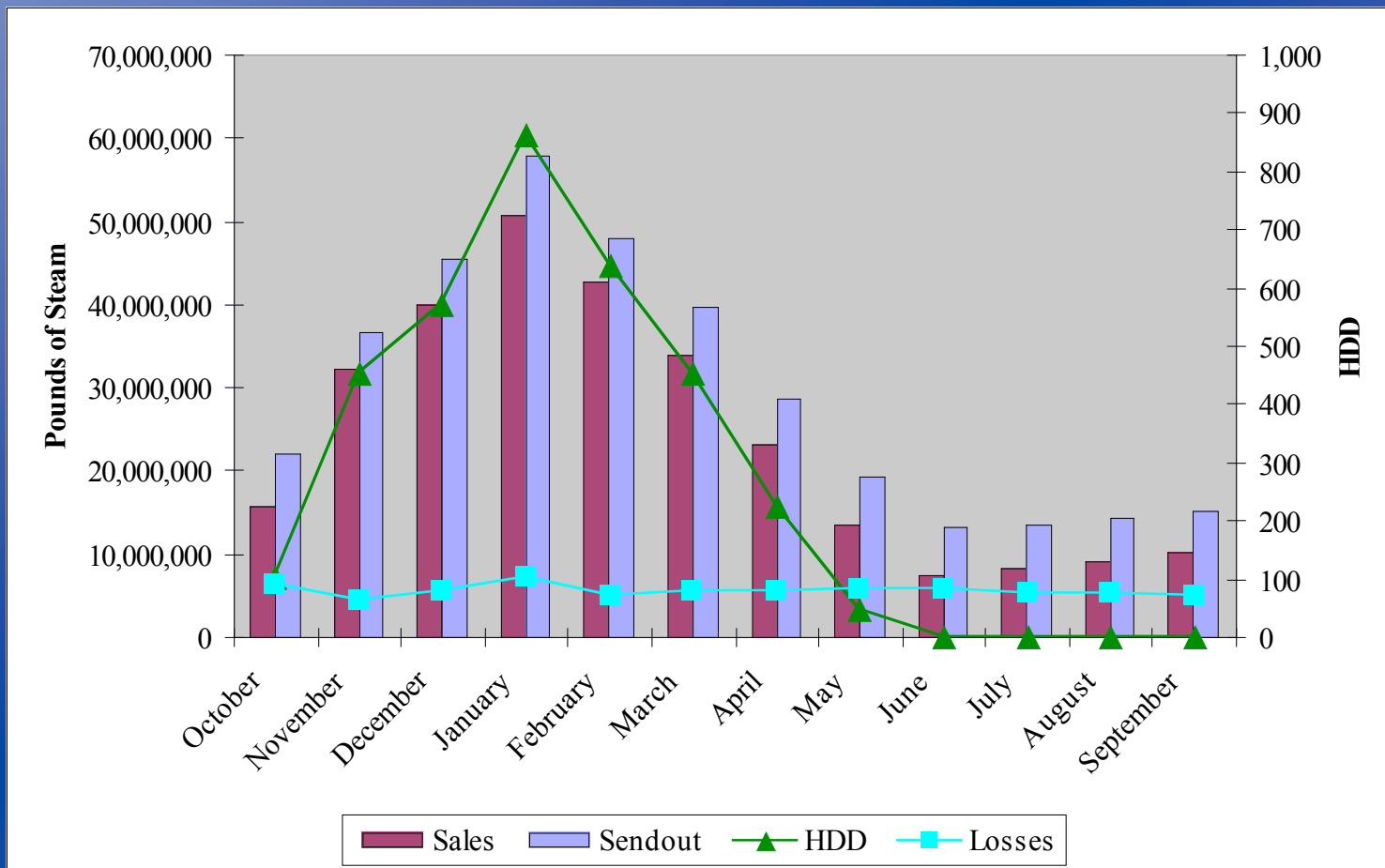
	Steam (\$ millions)			Chilled Water (\$ millions)		
	10/06 –9/07	10/07- 9/08	% Diff.	10/06- 9/07	10/07- 9/08	% Diff.
Private	\$2.587	\$2.350	-9.2%	\$3.877	\$3.883	<0.2%
State	\$3.150	\$2.898	-8.0%	\$3.144	\$3.224	2.5%
Metro	\$3.330	\$3.162	-5.0%	\$4.531	\$4.591	1.3%
New Customers	\$1.558	\$1.503	-3.5%	\$3.068	\$3.120	1.7%
Aggregate	\$9.067	\$8.410	-7.2%	\$11.552	\$11.698	1.3%

Includes MFA allocated to Metro Buildings (post-True-up)



## Metro Nashville DISTRICT ENERGY SYSTEM

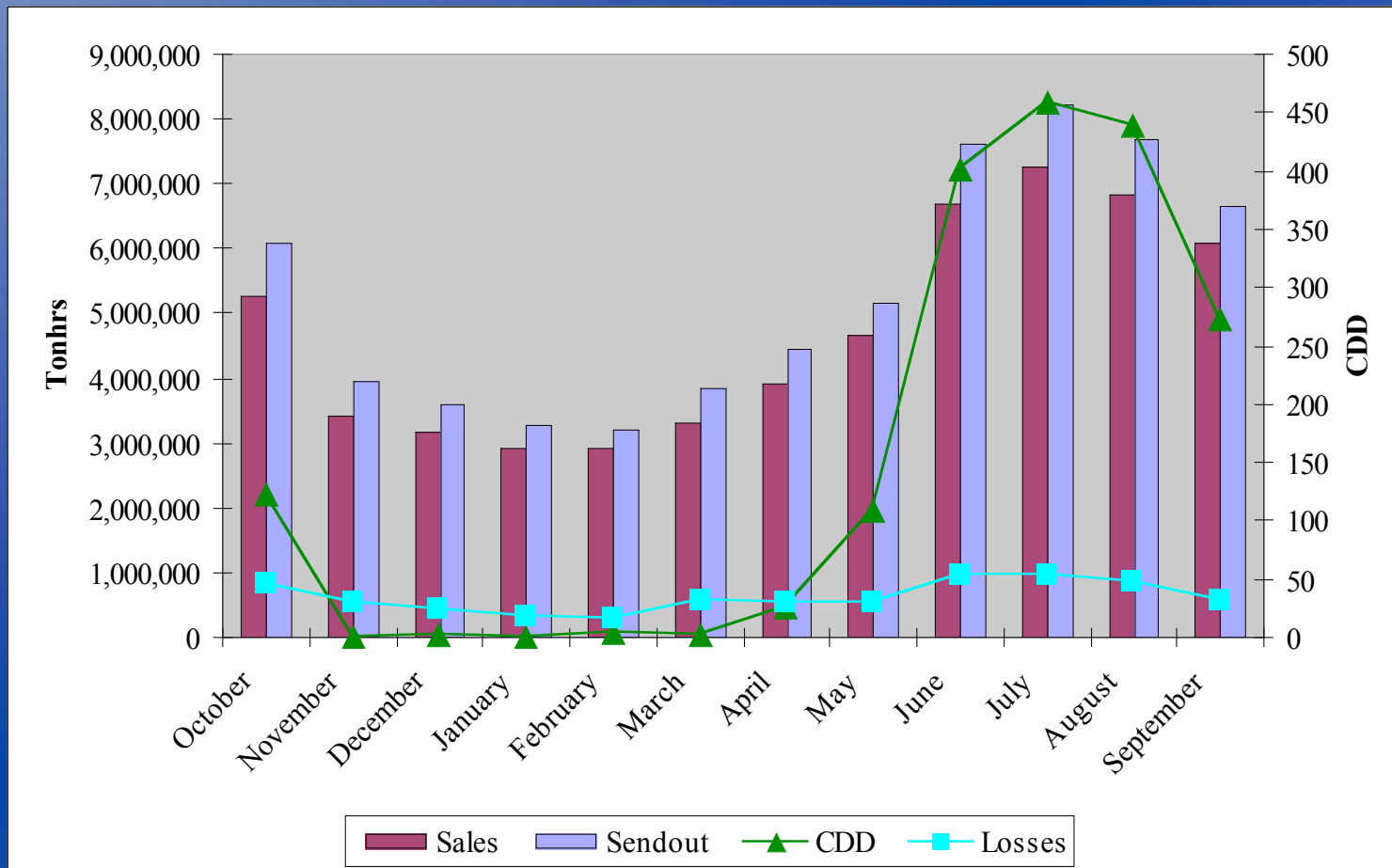
### *FY08 Operations: Steam*





## Metro Nashville DISTRICT ENERGY SYSTEM

### *FY08 Operations: Chilled Water*

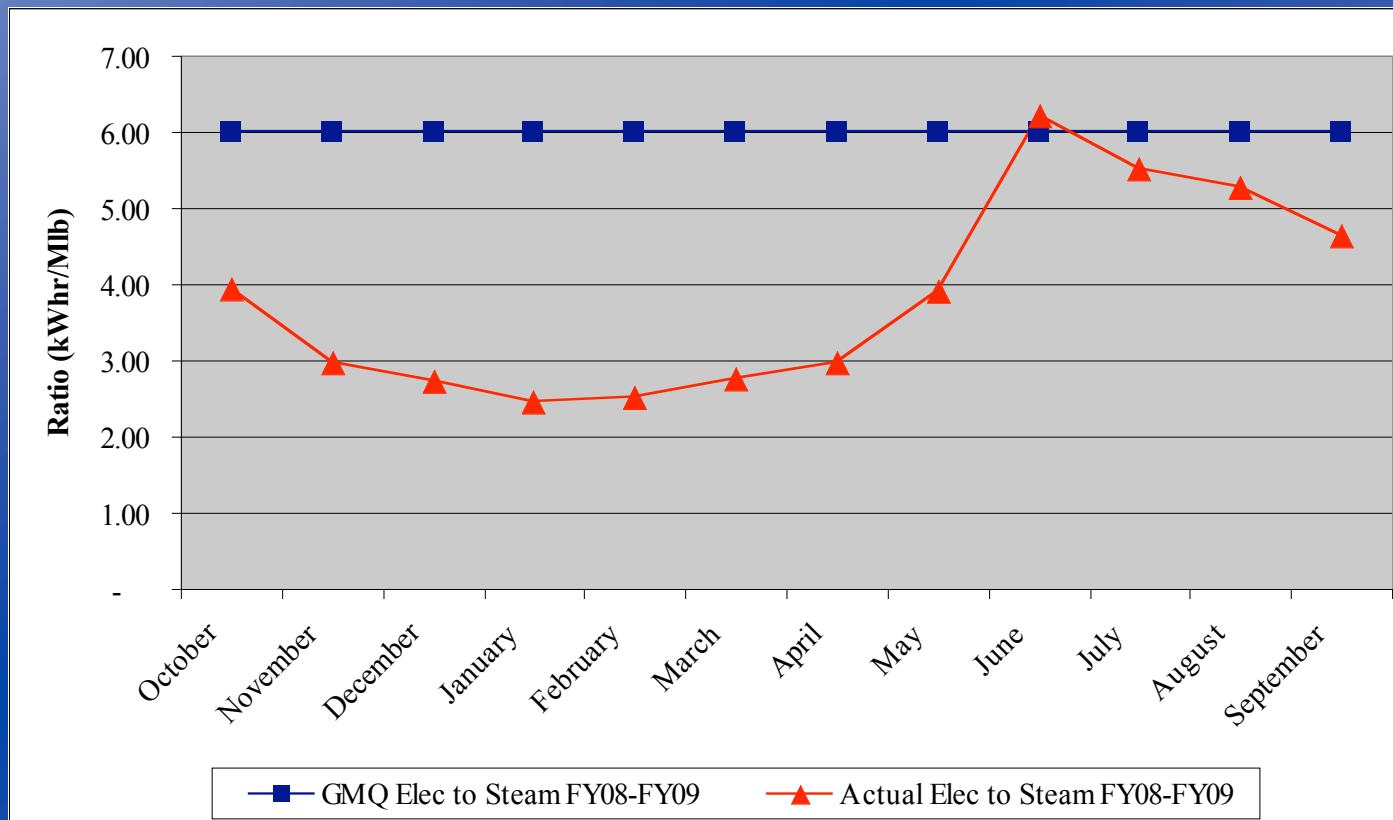






## Metro Nashville DISTRICT ENERGY SYSTEM

### *Performance Measurement FY08: Steam Electric Conversion*

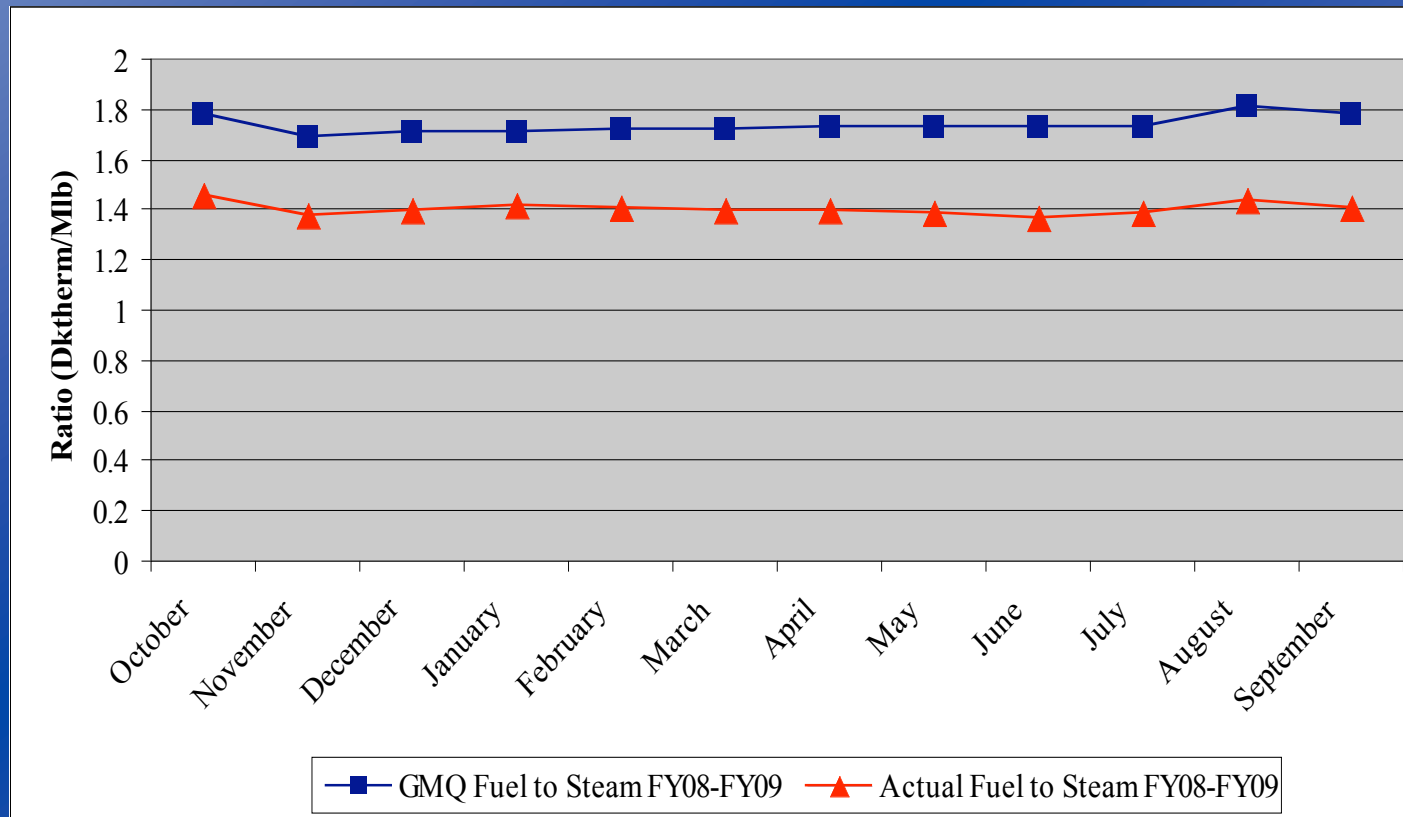






## Metro Nashville DISTRICT ENERGY SYSTEM

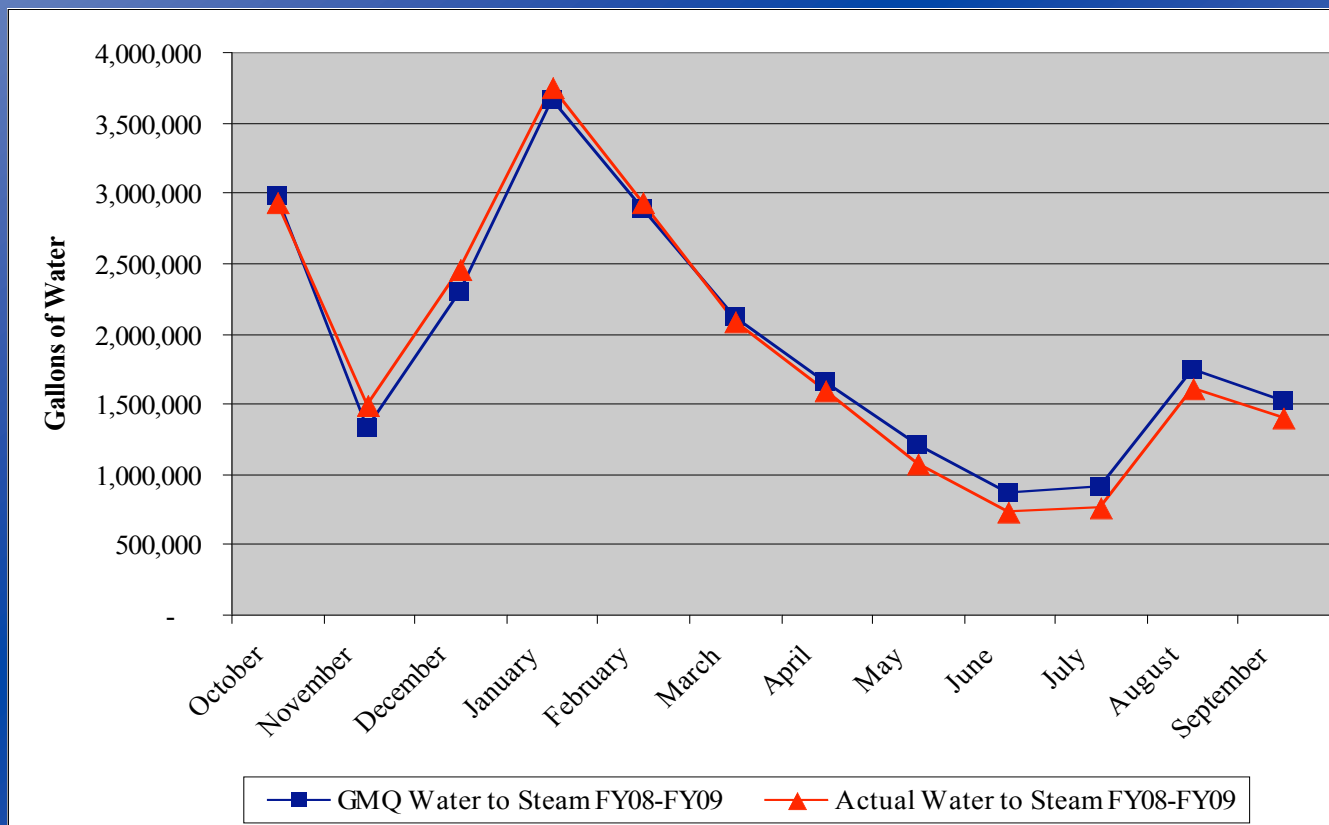
### *Performance Measurement FY08: Steam Plant Efficiency*





## Metro Nashville DISTRICT ENERGY SYSTEM

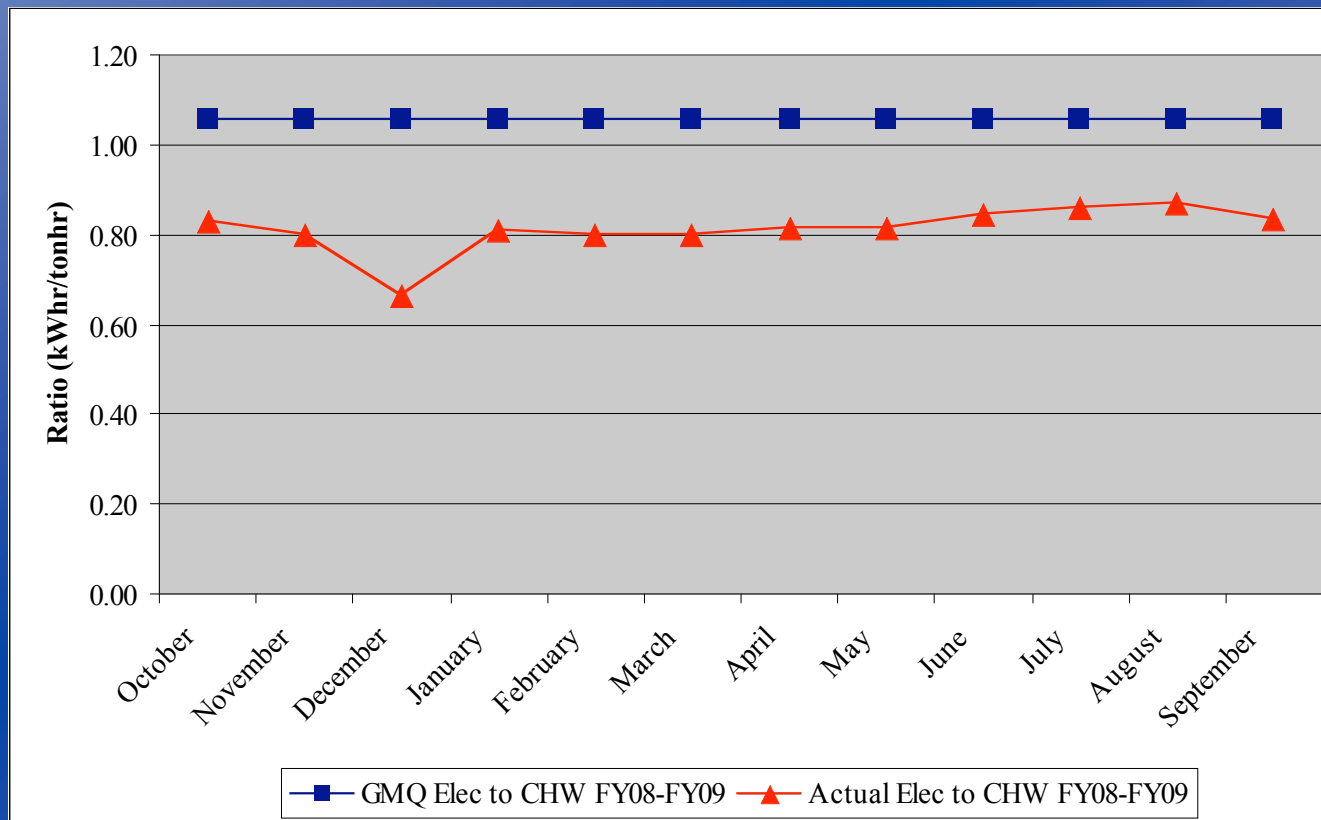
### *Performance Measurement FY08: Steam Water Conversion*





## Metro Nashville DISTRICT ENERGY SYSTEM

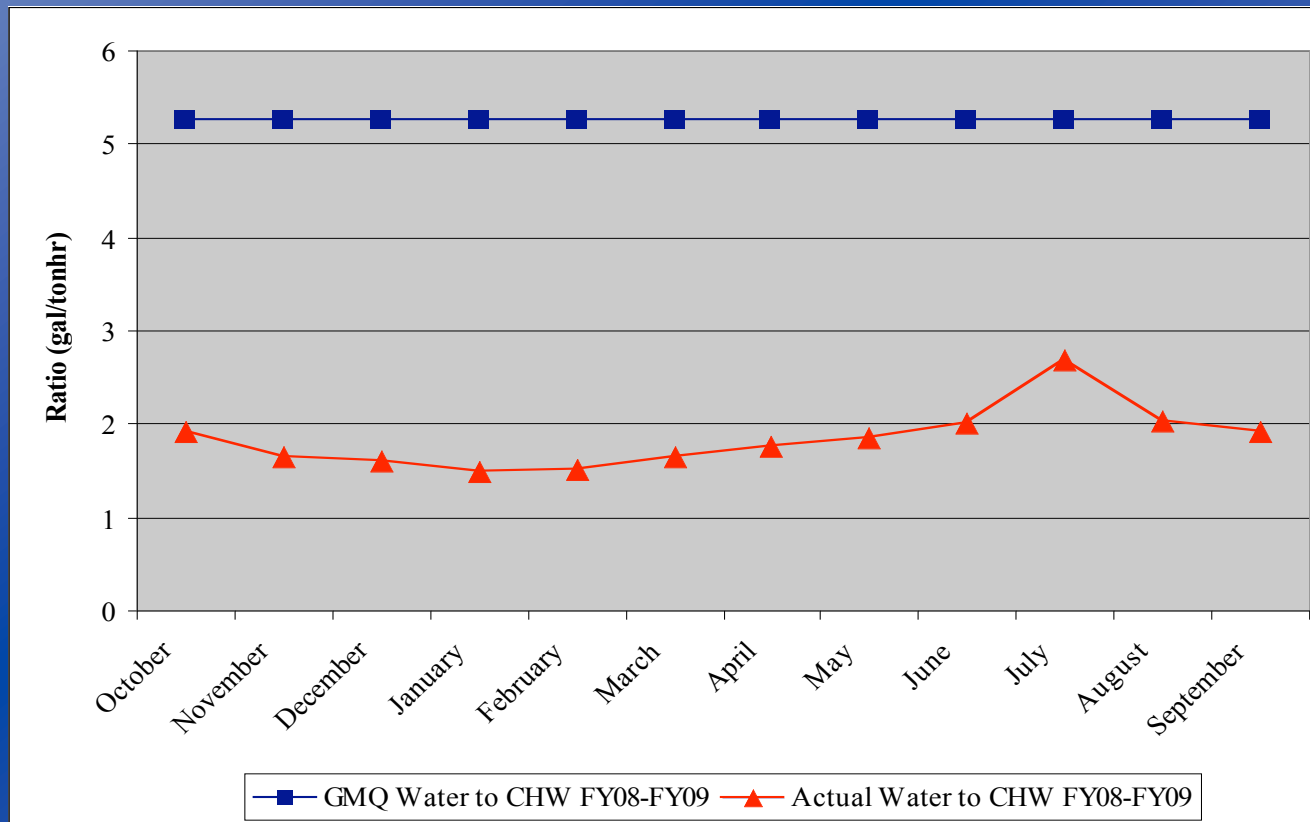
### *Performance Measurement FY08: Chilled Water Electric Conversion*





## Metro Nashville DISTRICT ENERGY SYSTEM

### *Performance Measurement FY08: Chilled Water Water Conversion*





## *Water Treatment*

- Steam/Condensate
  - Corrosion 
  - Iron 
  - Hardness 
  - Chlorine/Sulfite 
- Condensing Water
  - Conductivity 
  - Biologicals 
- Chilled Water
  - Hardness 
  - Corrosion 
  - Biologicals 



## *EGF Walkthrough*

### Quarterly Inspection Process

- Equipment Maintenance ●
- Operations ●
- Electrical ●
- Housekeeping ●
- Building Structure ●
- Building Exterior and Grounds ●



## *EDS Walkthrough*

### **Quarterly Inspection Process**

- Manhole/Tunnel Housekeeping ●
- Maintenance Items
  - Insulation Repair/Replacement ●
  - Water Infiltration ●
  - Corrosion of Structural Metal Components ●
- Safety Items ●





**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

## *5. Natural Gas Purchasing Update*

### **Natural Gas Purchasing Review**

#### **Table 5: FY08 Gas Spending & Budget Comparison**

**Actual Gas Costs for FY08**

**Projected Gas Costs for FY09**



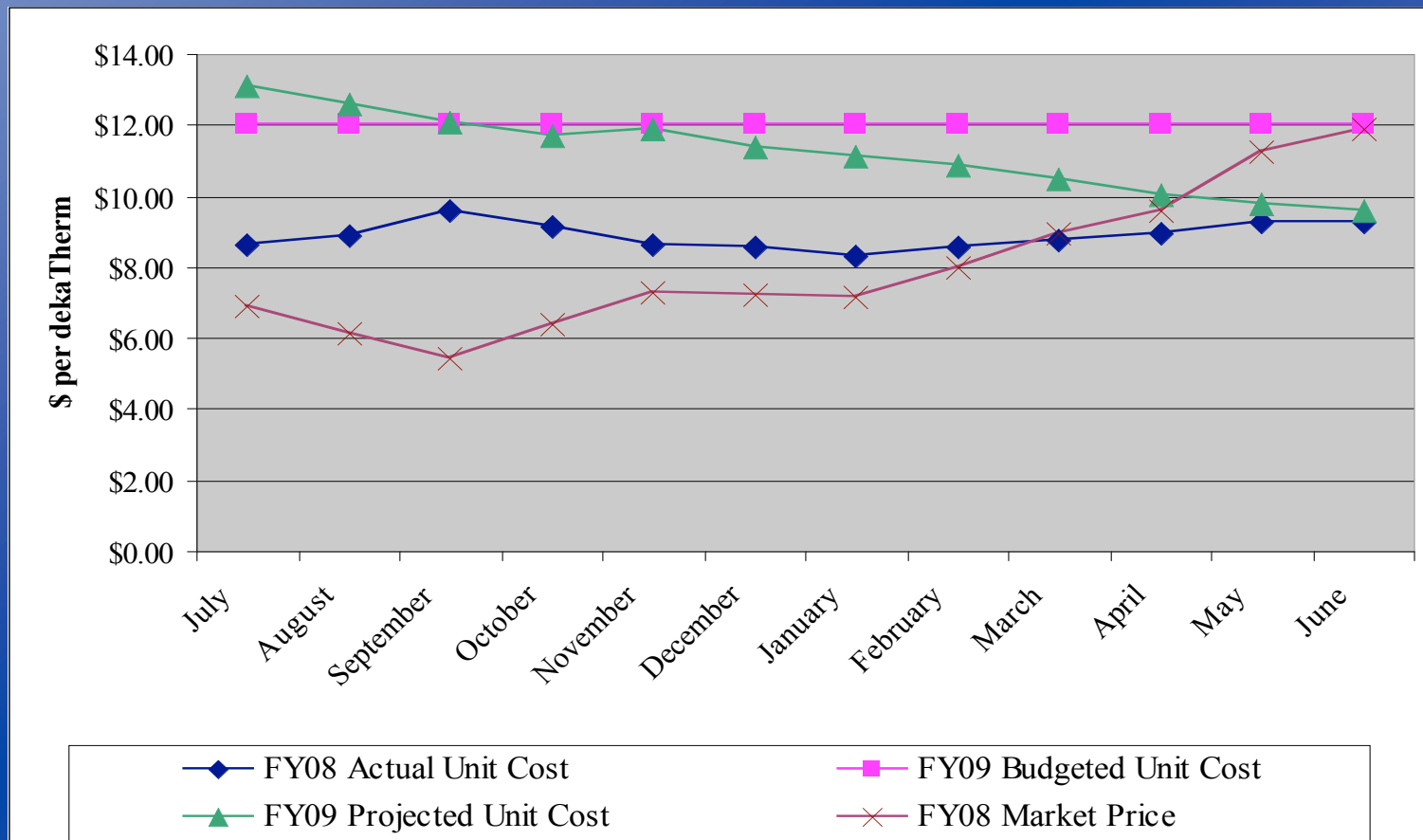
*Table 5: FY09 Gas Spending & Budget Comparison*

		Actual FY09 To date (Sept 30)	Budget FY09
Steam Sendout (Mlbs)		43,003	44,217
Fuel Use (Dth)	●	60,587	64,159
Plant Eff (Dth/Mlb)	●	1.408	1.451
Total Gas Cost	●	\$765,491	\$771,833
Unit Cost of Fuel (\$/Dth)	●	\$12.635	\$12.030



## Metro Nashville DISTRICT ENERGY SYSTEM

### *Projected Gas Cost Comparison for FY09*





# Metro Nashville

## DISTRICT ENERGY SYSTEM

### 6. Financial Reports: 1<sup>st</sup> Qtr FY09

Item	FY09 Budget	1st Qtr FY09 Expenses	Percent of FY09 Budget	Percent of FY08 Actual for 1st Qtr
FOC: Basic	\$ 3,852,170	\$ 963,042.51	25.00%	103.00%
FOC: 9th Chiller	\$ 36,100	\$ 9,023.76	25.00%	103.00%
FOC: Change Order 6A	\$ 71,260	\$ 17,815.74	25.00%	103.00%
FOC: Change Order 6B	\$ 62,390	\$ 15,597.00	25.00%	103.00%
Chemicals	\$ 156,510	\$ 43,118.73	27.55%	92.99%
Engineering	\$ 40,000	\$ 5,678.87	14.20%	n.a.
Insurance	\$ 42,440	\$ 29,721.89	70.03%	99.57%
Marketing: CEPS Sales Activity	\$ 27,000	\$ 2,005.57	7.43%	n.a.
Metro Marketing	\$ 52,890	\$ -	0.00%	n.a.
Incentive Payments	\$ 30,150	\$ 3,704.40	12.29%	51.03%
Project Administration	\$ 22,090	\$ -	0.00%	n.a.
Metro Incremental Cost	\$ 585,420	\$ 94,099.04	16.07%	68.76%
FEA: Steam	\$ -	\$ 34,016.86	n.a.	147.59%
FEA: Chilled Water	\$ -	\$ 112,987.27	n.a.	97.74%
ARFA	\$ -	\$ 13,986.69	n.a.	103.00%
Metro Credit	\$ -	\$ (149,216.72)	n.a.	85.31%
Water/Sewer	\$ 681,600	\$ 137,753.13	20.21%	82.74%
Natural Gas/Propane	\$ 6,570,400	\$ 765,490.08	11.65%	125.10%
Electricity	\$ 4,437,300	\$ 1,400,759.74	31.57%	106.07%
EDS Repair & Improvement	\$ 171,430	\$ 3,757.05	2.19%	12.28%
EDS Surcharge	\$ 68,460	\$ -	0.00%	n.a.
<b>Sub-total Operations</b>	<b>\$ 16,907,610</b>	<b>\$ 3,503,342</b>	<b>20.72%</b>	<b>106.05%</b>
2002 Bonds	\$ 4,361,770	\$ 1,090,373.43	25.00%	99.94%
2005 Bonds	\$ 631,590	\$ 172,074.13	27.24%	n.a.
FY07 Projects	\$ 227,800	\$ -	0.00%	0.00%
FY08 Projects	\$ 220,500	\$ -	0.00%	n.a.
Debt Service Interest Revenue	\$ (72,300)	\$ (46,161.38)	63.85%	n.a.
Oper. Reserve Funding Deposit	\$ 97,400	\$ 24,435.00	25.09%	51.18%
<b>Sub-total Debt Service</b>	<b>\$ 5,466,760</b>	<b>\$ 1,240,721</b>	<b>22.70%</b>	<b>103.76%</b>
<b>Total Expenses</b>	<b>\$ 22,374,370</b>	<b>\$ 4,744,063</b>	<b>21.20%</b>	<b>105.44%</b>
<b>Customer Revenues</b>	<b>\$ 19,768,660</b>	<b>\$ 4,498,667</b>	<b>22.76%</b>	<b>103.39%</b>
<b>Total Metro Funding Amount</b>	<b>\$ 2,605,710</b>	<b>\$ 245,396</b>	<b>9.42%</b>	<b>75.97%</b>



**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

## *7. Capital Projects Review*

### **Financial Summary**

### **Table 7: Capital Projects Summary**

### **Active Project Status**



**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

*Table 7: Capital Project Summary (09/30/08)*

	Spent to End of FY08	FY09 Spending	Balance to Date (09/30/08)
2002A Bond	\$3,680,667	\$0	\$47,292
R&I Projects	\$626,555	\$1,878	\$415,280
2005B Bond	\$7,655,347	\$8,633	\$522,521
2007 Bond	\$2,620,771	\$0	\$237,729
2008 Bond	\$87,758	\$29,075	\$2,631,667
Total	\$14,671,098	\$39,586	\$3,854,489



## *Active Project Status*

- DES 036: 4<sup>th</sup> Ave Tunnel Fan (R&I) - in construction
- DES 041/054: Symphony CND – in construction
- DES 042: 401 Union St. CND Replacement – in closeout
- DES 045: MH 6 to MH 23 CND Replacement – in close-out
- DES 046: Ryman CND – in design
- DES 047: State Tunnel CND Replacement – closed
- DES 049: Temp. Boiler Conn. @ MH 15 – closed
- DES 050: MH Insulation – in construction/ongoing
- DES 052: Wildhorse CND Tempering – in close-out





## *Return on Investment*

- Capital Project ROI
  - Boiler O<sub>2</sub> Trim
  - Power Factor Correction Capacitor
  - Condensate Return
  - New Customers
- Funding



## *8. DES Capacity – New Convention Center*

- TEG Hydraulic Analysis for EDS Chilled Water
- Expansion with New Convention Center
  - Peak Demands Decreasing Each Year: 2006, 2007, 2008
  - 11,500 gpm Additional Export Possible
  - Potential Servable Load at NCC Location ~7,200 tons
  - 7,200 tons Consumes Remaining EGF Capacity
- Potential Additional Customers at Other Locations



**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

*9. Other Board Member Items*

*10. Adjourn*